

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
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DN 106:9247
TI Analytical, toxicological and immunological consequences of the use of N-ethyl-N'-(3-dimethylaminopropyl)carbodiimide as coupling reagent for the preparation of meningococcal group C polysaccharide-tetanus toxoid conjugate as vaccine for human use
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SO Developments in Biological Standardization (1986), 63(Use Stand. Chem. Defined Antigens), 117-28
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DT Journal
LA English
CC 63-3 (Pharmaceuticals)
Section cross-reference(s): 4, 15, 33
AB For the prepn. of meningococcal group C polysaccharide-tetanus toxoid conjugate the reactive reagent N-ethyl-N'-(dimethylaminopropyl)carbodiimide is used. The application of this reagent results in a no. of stable linkages (viz. "peptide" linkages between the polysaccharide and tetanus toxoid, intrachain ester linkages in the polysaccharide component and binding of the N-acylurea deriv. of the reagent) and less stable ones (viz. anhydride linkages). As a consequence of the reaction, the reagent is converted to a nonreactive urea deriv. The toxic properties of the reagent and of the converted reagent were studied. These properties do not contraindicate the use of the coupling reagent for the prepn. of vaccines for human use. In addn. anal. methods were developed for the quant. evaluation of the coupling reagent, the reaction products and for the N-acylurea deriv. of the reagent and of the residual reactivity of conjugates for primary aminogroups. Although no test was performed for the assay of ester linkages in the polysaccharide component of the conjugate, evidence is presented that such linkages may be present. The results of the test for residual reactivity indicated a spontaneous rearrangement of linkages after the prepn. of the conjugate. In addn. the effect of the ratio of coupling reagent-to-polysaccharide and tetanus toxoid on antigenic and immunogenic activities of the conjugate was studied. An increase of the ratio resulted in a decrease of the antigenic activity of the polysaccharide component but in an increase of its immunogenic activity as to the induction of IgG antibodies to the polysaccharide. The immunogenic activity of the polysaccharide component correlated rather well with the antigenic activity measured in heterologous enzyme-linked immunosorbent assay using antibodies to both components.
ST carbodiimide coupling Meningococcus polysaccharide; tetanus toxoid polysaccharide carbodiimide coupling; vaccine tetanus toxoid polysaccharide carbodiimide
IT Vaccines
 (polysaccharide-tetanus toxoid conjugates for)
IT Polysaccharides, compounds
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (C, tetanus toxoid conjugates, prepn. of, for vaccines)
IT Toxoids
 RL: BIOL (Biological study)
 (tetanus, polysaccharide conjugates, for vaccines)
IT 1892-57-5, N-Ethyl-N'-(3-dimethylaminopropyl)carbodiimide
 RL: BIOL (Biological study)
 (coupling agent, for polysaccharide-tetanus toxoid conjugates for vaccines)
IT 32897-26-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and toxicity of)

IT 42965-13-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)